

## Introduction to the Magnetic Treatment of Fuel

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Hydrogen is the lightest and most basic element known to man. With its simple structure comprised of only one proton and one electron, it is one of the major constituents of all hydrocarbon based fuels. By studying the response of hydrogen with respect to magnetic fields and the accompanying increased energy output, much can be learned and applied to other related fuels.

In the oxidation/combustion of hydrocarbon fuels, it is the outer shell of the hydrogen that is combusted first.

Hydrogen, the first element of the chemical periodic chart, has the atomic number 1 and the atomic weight 1.0079. Since it possesses only one electron, it has the valence of positive 1. Even though hydrogen is the simplest of all elements, it possesses two distinctive forms: ortho-hydrogen and para-hydrogen. To secure conversion of para to ortho state, it is necessary to change the energy of interaction between nuclear spins. The molecules of the two gases, para and ortho-hydrogen differ in the relative orientation of the nuclear spins of the two protons. In para molecules the spins of the protons are anti-parallel, while in the ortho molecule the spins are parallel. The para molecules occupy the even rotational levels, and the ortho molecules occupy the odd levels.

The orientations of the spins have a pronounced effect on the behavior of the molecule. In fact, ortho-hydrogen is unstable and more reactive than its para-hydrogen counterpart. The liquid hydrogen fuel that is used to power the space shuttle is stored in the para-hydrogen form, which is less volatile.

A utility patent was awarded to Simon Ruskin, 3228 868, which relates the means by which hydrogen rocket fuel can be converted from para-hydrogen to ortho-hydrogen through the application of a magnetic field. Note that under U.S.C. 35 section 101, any utility patent must be proven scientifically operable and correct before issuance. Design patents are not subject to the above PTO ruling.

It should be noted that magnets are the prime source of control of the position of electrons. For example, a magnetic coil controls the sweep of our television's electron gun. We frequently use the term electromagnetism because we can't separate the effects one field has on the other. Therefore, it shouldn't be too surprising that chemical reactions which are determined by an element's valence (the surplus or deficiency in the outer orbital shells of the electrons) are affected by a magnetic field.

When we attach a Magnetizer unit to the fuel line of an automobile, we see an immediate drop in unburned hydrocarbons and carbon monoxide. This is due to the magnetic conditioning of the fuel, which makes it more reactive. Few people realize that carbon monoxide can be subsequently burned - carbon monoxide can be viewed as a fuel. The purpose of a catalytic converter on automobiles is to oxidize (burn) carbon monoxide into carbon dioxide. As related in stoichiometric charts representing ideal combustion parameters, the highest burning efficiency will be achieved at the highest carbon dioxide level, since carbon dioxide cannot be subsequently oxidized. The purpose of a catalytic converter is to reduce all carbon monoxide to carbon dioxide. The amazing part is that the Magnetizer reduces emissions on cars with catalytic converters. The increased combustion efficiency is occurring within the engine due to increased fuel reactivity with oxygen (increased oxidation), the main factor responsible for increased combustion efficiency. It is a complete waste to allow an engine to run inefficiently and to burn the excess carbon monoxide in it's catalytic converter, the wasted heat merely "heats-up" the exhaust system, instead of providing useful work within the engine.

By establishing proper fuel burning parameters by magnetic means, we can be assured that an internal combustion engine is getting the maximum energy per gallon of fuel as well as providing the environment with the lowest level of toxic emissions. Overall generation of carbon dioxide will drop due to better overall engine efficiency.

The magnetic treatment of fuel represents a new technology. Many attempts by various inventors and scientific investigators worldwide have been far less than satisfactory due to the implementation of what has become known as the bi-polar technique. Magnetic fields, like their electrical counterpart, electricity, choose the path of least resistance; and in doing so, it also represents the path of least effect, since with bi-polar devices most of the magnetic forces are merely being transmitted between the two poles. The Magnetizer Group, Inc. is responsible for founding the mono-pole technology, or in simple terms, the use of the single pole technique. The mono-pole application has in some instances, increased the flux field (power density) as much as 500 times that of some bi-polar technology. This is of supreme importance, since it is required to have the necessary power (flux density) to properly excite the electron activity causing the increased oxidation effect. This is why all prior systems to the Magnetizer could not show sufficient results. The recent advent of the gas emission analyzer, which is used to enforce state and federally regulated emission standards in accordance with the science of stoichiometry, has greatly aided in the documentation of magnetic fuel research results.

In conclusion, Magnetizer Industrial Technologies, Inc. ascribes to generally well-known and accepted physical dicta of the science of magnetic fluid conditioning.